



THORNTON
PLANNING ACADEMY

Water and City Development



October 7, 2026

Purpose

To improve your understanding of where the City's water come from and how it is used throughout your community.

Agenda

- Water Supply – where does your water come from?
- Water Demand – how does the water get used?
 - Where City Development comes in
- Class Activity – commercial water use

Thornton Water Supply

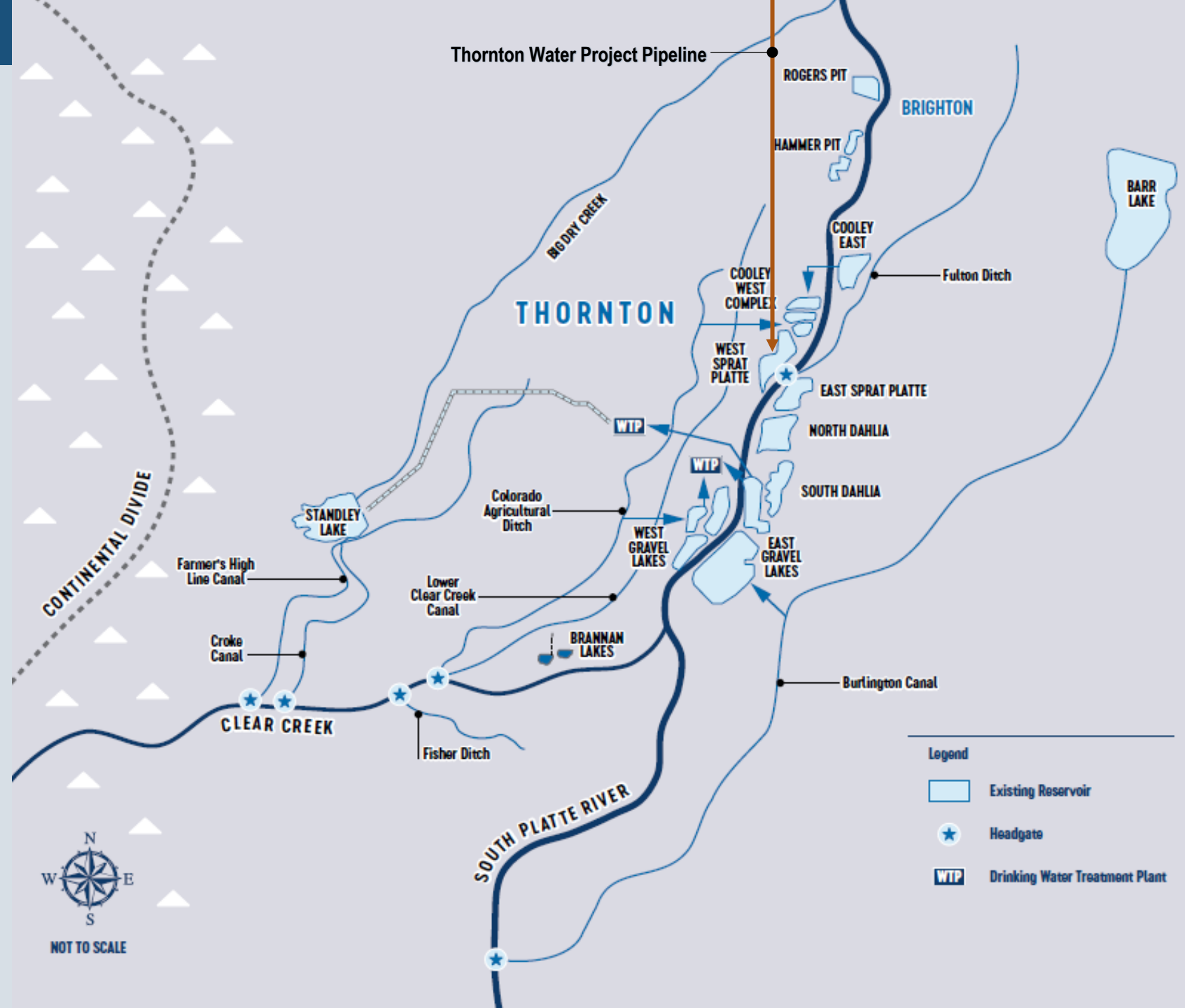
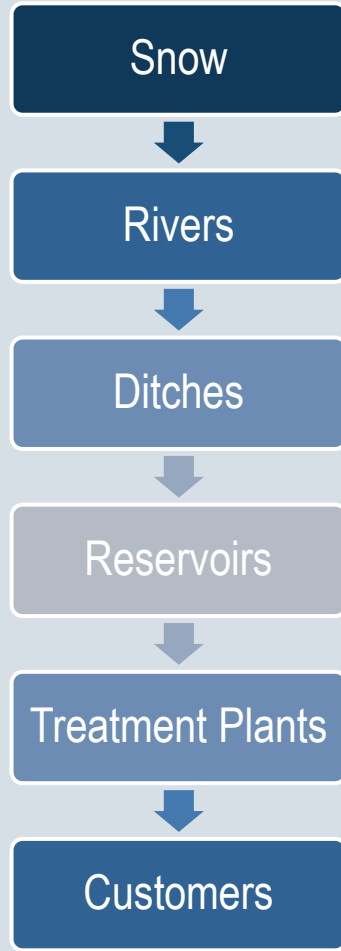
Where does Thornton's water come from?

Thornton Water Supply

- 98% of Thornton's supply is from surface water (snowmelt)
- Thornton's surface water sources:
 - South Platte River
 - Clear Creek
 - Cache la Poudre River (newest addition)



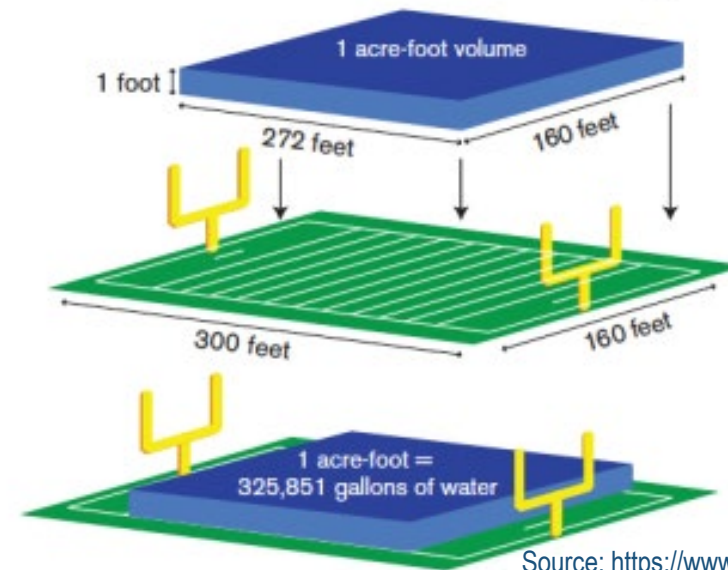
Water Supply



Thornton Water Supply



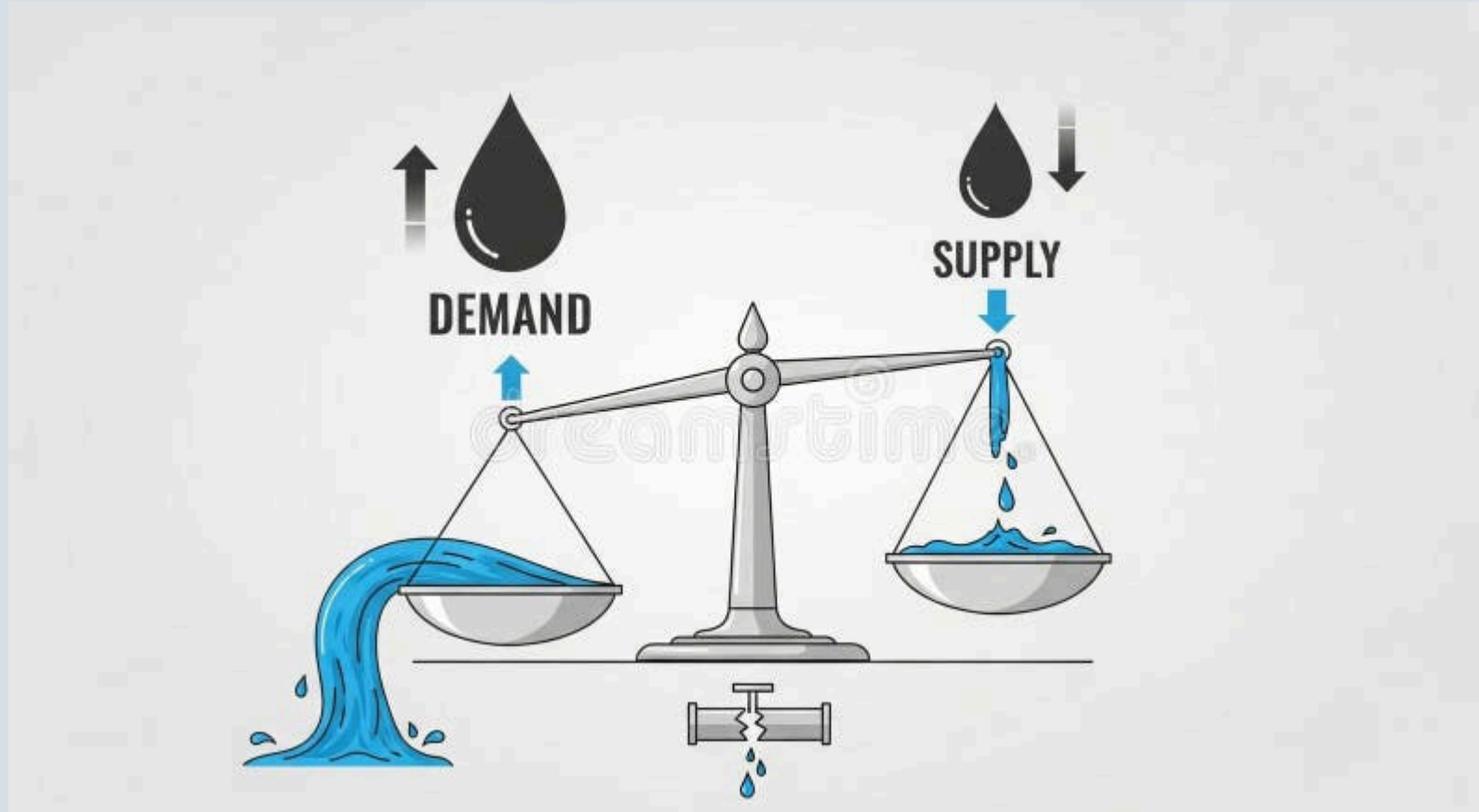
- Total storage capacity: 45,000 acre-feet
 - 1 acre foot = 325,851 gallons



Source: <https://www.fortcollins.gov/Home>

- Storage carries water from wet periods to dry periods

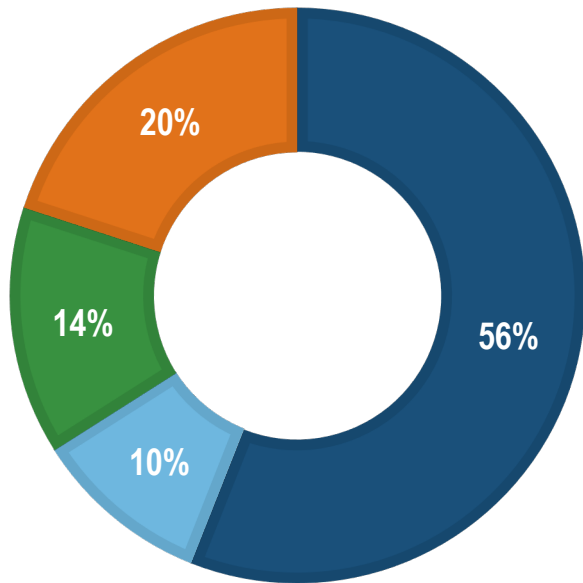
Water Supply and Water Demand



Source: <https://www.dreamstime.com/illustration-depicting-balance-water-supply-demand-represented-scale-flowing-side-dripping-image435425891>

Water Demand – Types of Demand

TREATED WATER DEMAND BY
SERVICE TYPE, 2022

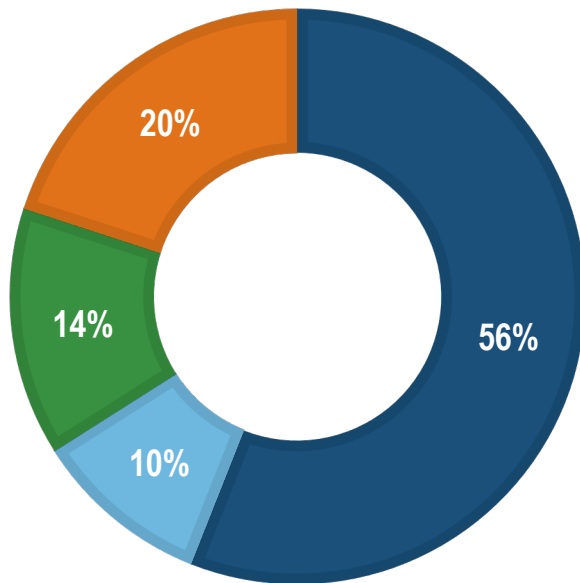


What types of demand
does Thornton
experience?

Water Demand – Types of Demand

TREATED WATER DEMAND BY
SERVICE TYPE, 2022

■ Residential ■ Commercial ■ Irrigation ■ Other

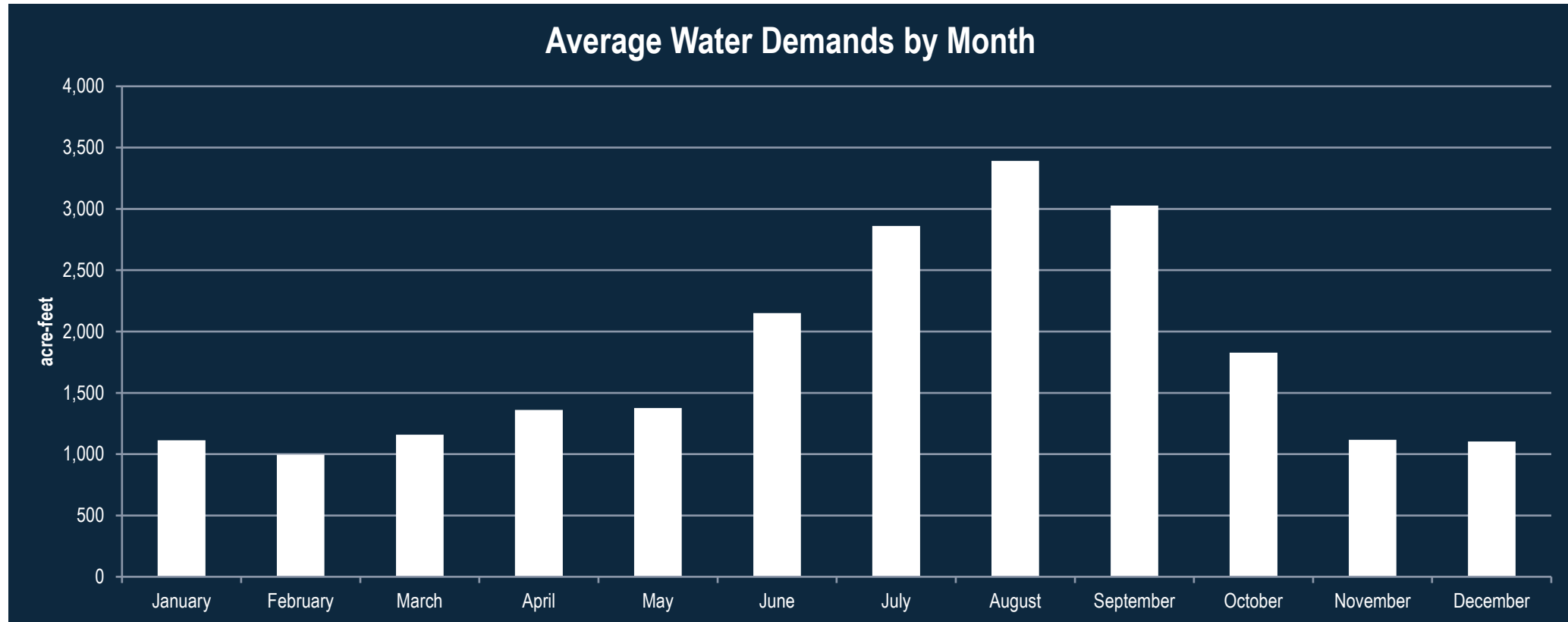


8 Billion

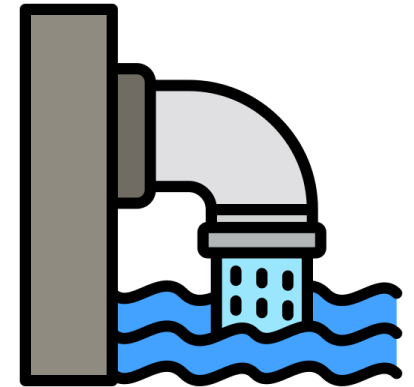
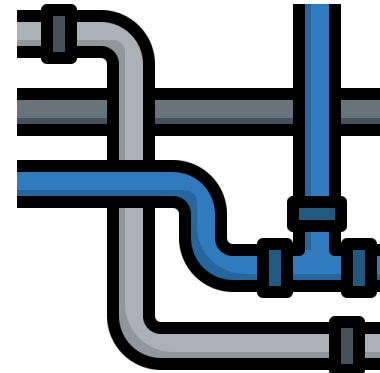
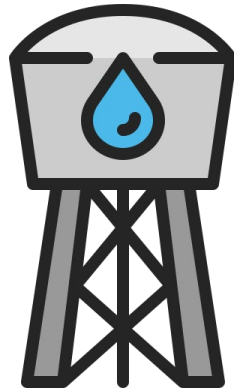
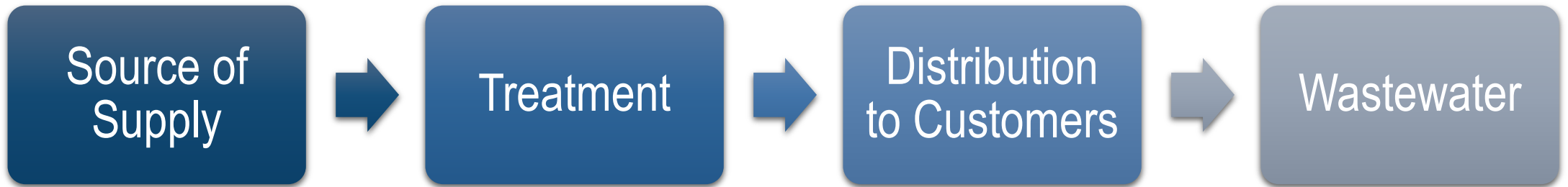


Gallons of
Water Delivered
to the Community
Annually

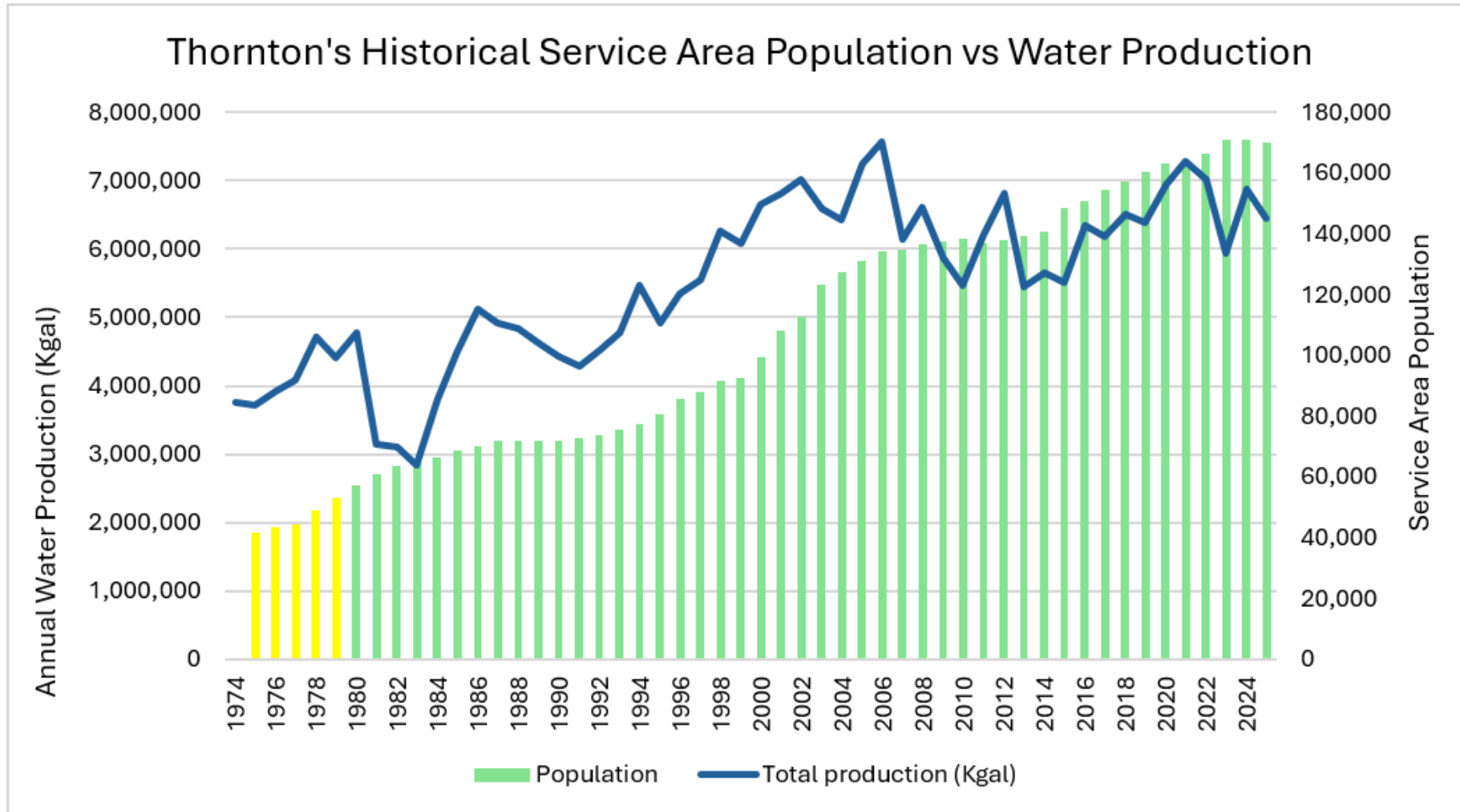
Water Demands



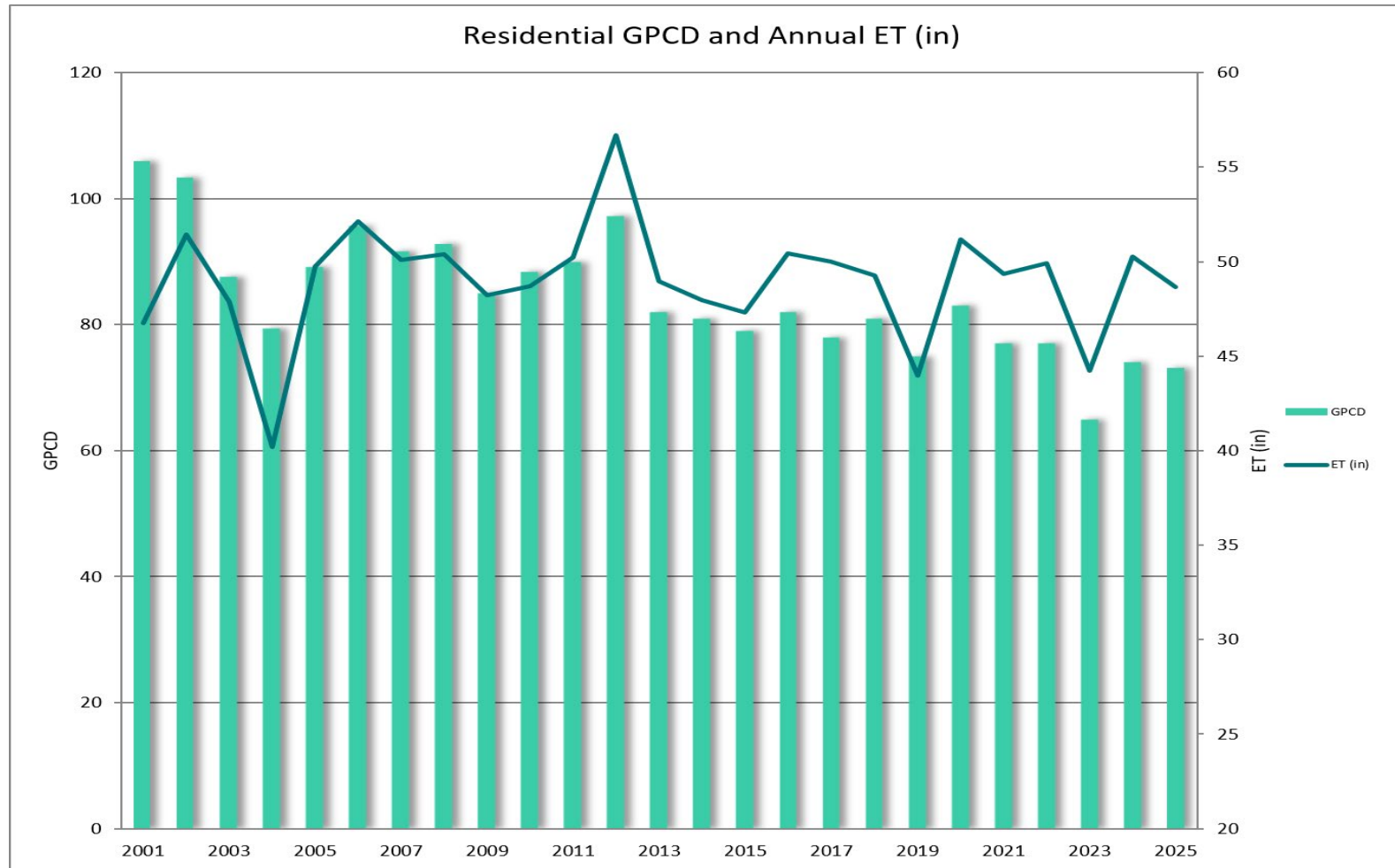
Water Utility Capacity



Water Production and Water Efficiency



Water Supply and Water Efficiency



Water Demand and City Development

Long Term Water
Supply Planning

Population and land
use projections from
the Comprehensive
Plan

Impact Statement

Evaluates the
impact a proposed
development has on
water supply and
utility infrastructure

Landscape
Review

Commercial
Water Use
Review

Evaluates the
expected water use
for a specific
customer/tenant

Commercial Water Use Review

- Water Use Questionnaire

Water Meter

Proposed water meter size:

Anticipated peak daily water demand (gallons per minute):

Anticipated Demand

Anticipated average daily water demand (gallons):

Anticipated monthly water demand (gallons):

Anticipated annual water demand (gallons):

Use the space below to provide mathematical evidence/rationale for the above estimations.
Provide on a separate sheet if necessary.

Commercial Water Use Review

- **Water Use Agreement**

- Formal agreement with high-water-use customer to limit annual water use to a mutually agreed upon amount
- High water user = 10 acre-feet per year (3 million gallons per year)
- If agreement is violated, customer will pay Tier 4 water rates

2.5 Commercial Water Quantity Charge. The following monthly charges per 1,000 gallons are established for commercial service:

Tier	Allowed Monthly Usage	Inside City	Outside City
1	0 - AWC	\$ 7.76	\$ 11.64
2	> AWC up to AWC + MOA	7.76	11.64
3	> AWC + MOA up to AWC + 2x MOA	9.99	14.99
4	All Usage Above Tier 3	19.97	29.96

Commercial Water Use Review

Huron Market/Restaurant (Schweitzer)

- Proposed ~8000 sq.ft.



Water Meter

Proposed water meter size: Existing

Anticipated peak daily water demand (gallons per minute): estimated peak hour demand of 18.2 gpm

Anticipated Demand

Anticipated average daily water demand (gallons): 8094 gpd average daily demand

Anticipated monthly water demand (gallons): 8094 * 30 = 242,820 gallons

Anticipated annual water demand (gallons): 242,820 * 12 = 2,913,840 gallons

Use the space below to provide mathematical evidence/rationale for the above estimations.
Provide on a separate sheet if necessary.

2,913,840 gallons/year = 8.94 AF/year

Trivia

Rank the commercial uses from highest water use to lowest water use:

☐

Hotel (e.g. Garden Inn)

☐

Big Box store (e.g. Walmart)

☐

Sit Down Restaurant (e.g. Applebee's)

☐

Car Wash

Trivia

Rank the commercial uses from highest water use to lowest water use:

1. Car Wash (15-18 acre-feet / 4.5-5.5 million gallons)
2. Hotel (e.g. Garden Inn) (9-19 acre-feet / 3-6 million gallons)
3. Sit Down Restaurant (e.g. Applebee's) (1-6 acre-feet / 300k-1.9 mil gallons)
4. Big Box store (e.g. Walmart) (1-5 acre-feet / 300k-1.6 mil gallons)

Class Activity – Commercial Water Use

- Instructions:
 - You have 10-15 minutes
 - Break into groups of 2-3 people
 - You should have two documents: 1) water use questionnaire, 2) water use benchmarks
 - Review the materials as a group
- Questions to discuss with group:
 - What is the total annual use, including irrigation?
 - Is the proposed water use reasonable?
 - Is a Water Use Agreement necessary?

Recap

- Thornton's primary water source is surface water (snowmelt)
- City demands are constrained by utility capacity
- Residential uses is the largest total demand in the City, while commercial uses are the largest individual demands

